

GALL, Endre, okleveles mernok

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Soil stabilization by cement at the highway construction between Bagdad and Kut. Melyepitestud szemle 12 no.8:367-372 Ag '62.

1. Ut-Vasutervezo Vallalat osztalyvezetoje.

WALGER, Janos; SVAB, Janos; THURANSZKY, Attilane; GALL, Eva

Correlation between the ripening grade of corn(maize) species and the dry substance as well as starch contents of the grain. Agrochem talajtan 10 no.3:377-388 S '61.

1. Orszagos Mezogaszdasagi Minosegviszsgalo Intezet, Takarmanyminositó Osztaly, Budapest.(for Walger, Thuranszky, Gall) 2. Technikai szerkeszto Agrochemia es Talajtan" (for Walger). 3. Novenyfajteminosito Tanacs Titkarsagnak munkatarsa(for Svab).

BOGNAR, Rezső; D.GALL, György

Morphine and codeine nitro derivatives. Magyar kémiai folyóirat 69  
no.1:17-22 Ja '63.

1. Kossuth Lajos Tudományegyetem Szerves Kémiai Intézete,  
Debrecen. 2. "Magyar Kémiai Folyóirat" szerkesztő bizottsági  
tagja.

GALL, Imre, dr., okleveles mérnök

In what direction is the rapid subway system developing?  
Közl tud sz 14 no. 6: 278-280 Je '64.

1. Group leader, Capital Civil Engineering Designing Enterprise, Budapest.

GALL, Imre, dr., okleveles mérnök

Central traffic control (green wave) in the capital. Auto motor  
18 no.9:24 6 My '65.

1. Head, Section of Transportation of the Capital Civil  
Engineering Designing Enterprise, Budapest.





GALL, I.

"Switch Tracks of Subway Networks", P. 364, (KOZLEKEDESTUDOMANYI SZEMLE, Vol. 3, No. 10, Oct. 1953, Budapest, Hungary)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 3, No. 12, Dec. 1954, Uncl.



*Encl.*  
GALL, I.

Hortobagy stone bridge. p.2. (Melyepitestudományi Szemle, Budapest, Vol. 5, no. 1, Jan 1955)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, No. 1, Jan. 1955, Uncl.

GALL, I.

GALL, I. - The role of Elizabeth Bridge for Budapest traffic. p. 340.  
Vol. 6, No. 9, Sept. 1956.  
Kozlekedestudományi Szemle, Budapest, Hungary.

SOURCE: East European Accessions List (EEAL) Vol. 6, No. 4--April 1957

GALL, I.

The express line to Csepel is five years old. p. 401.  
(Kozlekedestudományi Szemle, Vol. 6, no. 11/12, Nov./Dec. 1956.  
Budapest, Hungary)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 9, Sept. 1957. Uncl.

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THE BUDAPEST SUEWAY IS 60 YEARS OLD.

p 25 (KÖZLEKEDÉSTUDOMÁNYI SZEMLE) BUDAPEST, HUNGARY VOL 7 NO 1/3 JAN./MAR. 1957

50: MONTHLY INDEX OF EAST EUROPEAN ACESSIONS (AEEI) VOL 6 NO 11 NOVEMBER 1957

GALL, I.

A new streetcar to be designed.

p. 197 (Kozlekedestudományi Szemle) Vol. 7, No. 6, June 1957, Budapest, Hungary

SO: MONTHLY INDEX OF EAST EUROPEAN ACCESSIONS (EEAI) LC, VOL. 7, NO. 1, JAN. 1958

GALL', I., inzh.

Heat treatment of coatings obtained by iron plating. Avt.  
transp. 38 no. 12:26-27 D '60. (MIRA 13:12)  
(Iron plating)

GALL, Imre, dr., okl, mernok

The first Hungarian navigation model exhibition. Kozl tud sz  
12 no.2:85-88 F '62.

1. Melyepitesi Tervezo Vallalat irányito tervezoje, es "Kozle-  
kedestudomanyi Szemle" szerkeszto bizottsagi tagja

GALL', I.; GACHKAYEV, K.; ZALOZHCHIK, A.

Practice in iron electroplating. Avt.transp. 40 no.5:29-33  
My '62. (MIRA 15:5)

(Iron plating)



GALL, Imre, dr., okleveles mernok

The 1962 Budapest Industry Fair. Kozl tud sz 12 no.8:373-380  
Ag '62.

1. Melyepitesi Tervezo Vallalat irányito tervezoje, es "Kozleke-  
destudomanyi Szemle" szerkeszto bizottsagi tagja.

GALL, Imre, dr., okleveles mernok

Perspectives of the Danube-maritime navigation by Hungary. Kozl  
tud sz 12 no.12:544-548 D '62.

1. Melyepitesi Tervezo Vallalat irányito tervezoje, es "Kozleked-  
estudományi Szemle" szerkeszto bizottsagi tagja.

GALL, Imre, dr., okleveles mernok

The Jaszdozsa bridge over the Tarna. Melyepitestud szemle 13 no.4:  
177-179 Ap '63.

1. Varosepitesi Tervezo Vallalat irányito tervezoje.

GALL, Imre, dr.

The Sie Canal. Musz elet 18 no.24:3 21 N '63.

GALL, Inra, dr.

Role of bridges in architectural design. Épites közleked tud  
kozl 7 no.3:253-266 '63.

GALL, Imre, dr., okleveles mernok

Correlations between the commuting traffic and various forms of  
settlement. Kozl tud sz 14 no.9:407-412 S '64.

1. Group Head, Capital Civil Engineering Designing Enterprise,  
Budapest.

GALL, Irena, dr., oklaveda bernok

Zala Bridge at Zalaszentgot. Molyepitentiara szentia 14. sz. 11:520-613  
N 164.

1. Division Chief, Capital Civil Engineering Designing Enterprise,  
Budapest.

GALL, Inra, dr., okleveles mernok

The new Erzsebet Bridge. Kozl tud sz 15 nc. 41-46 P '65.

1. Group Head, Capital Civil Engineering Designing Enterprise,  
Budapest, and Editorial Board Member, "Kozlekedestudomanyi Szemle."



GALL, Ida, dr.

Application of hyason electrophoresis in athletic injuries.  
Orv.hetil. 100 no.49:1769-1770 D '59.

1. Az Országos Testnevelés- és Sportegészségügyi Intézet  
(igazgató: Hajdu Ferenc dr.) Fizikoterápiás Osztályának  
közleménye.

(SPORTS wds & inj.)  
(HYALURONIDASE ther)

HAJDU Ferenc, dr.; GALL, Ida, dr.

Electrophoretic di-andreson therapy. Orv.het11. 102 no.10:456-457  
5 Mr '61.

1. Orszagos Testnevelés- és Portegeszsegugyi Intezet.  
(ADRENAL CORTEX HORMONES ther)  
(IONTOPHORESIS)

GALL', I.Ye., inzh.

Using steel plating for the reconditioning of parts operating  
at high temperatures. Vest. TSNII MPS 30 no.6:39-41 '61.

(MIRA 14:10)

(Electroforming)

(Railroads--Maintenance and repair)

PROKOF'YEV. A.A., kand.tekhn.nauk; GALL'. I.Ye., inzh.; SURZHIN, V.S., inzh.

Reconditioning of diesel locomotive parts. Trudy TSNII MPS no.288:60-  
92 '65. (MTPA 18:10)

GALL, J.

GALL, J. Tasks of geodesy in practical surveying. p. 211.

Vol. 2, no. 11, Nov. 1956  
GEODETIČKY A KARTOGRAFICKÝ OBZOR  
SCIENCE  
Czechoslovakia

So: East European Accession Vol. 6, No. 5, May 1957

GALL, Janos; BROOSER, Gabor

X-ray diagnosis of trachomatous changes in the lacrimal duct.  
Szemészet 93 no.1:37-39 March 56.

1. A Budapesti Orvostudományi Egyetem I. ss. Szemklinikájának  
(Igazgató: Radnot Magda egyetemi tanár, az orvostudományok  
doktora) közl.

(LACRIMAL APPARATUS, dis.

trachomatous disord. of lacrimal duct., x-ray diag.  
(Hun))

(TRACHOMA, compl.

lacrimal duct disord., x-ray diag. (Hun))

GALL JÁNOS

Role of neurohormonal factors in the etiology of keratoconjunctivitis sicca. Szemeszet 94 no.1:38-42 May 57.

1. A Budapesti Orvostudományi Egyetem I. sz. Szemklinikájának közleménye (Igazgató: Radnot Magd egyetemi tanár, az orvostudományok doktora).

(KERATOCONJUNCTIVITIS, etiol. & pathogen.  
sicca, etiol. role of neurohormonal factors (Hun))

GALL, Janos

Changes in trachomatous lacrimal ducts. Szemeszet 94 no.2:91-94 July 57.

1. A Budapesti Orvostudományi Egyetem I. sz. Szemklinikájának (Igazgató: Radnot Magda egyetemi tanár, az orvostudományok doktora) közleménye.

(NASOLACRIMAL DUCT, radiography  
in trachoma (Hun))

(TRACHOMA

nasolacrimal duct changes, x-ray manifest. (Hun))



GALL, Janos, dr.

ACTH and cortisone administration in inducing the reabsorption of vitreous and retinal hemorrhages. Orv.hetil. 101 no.47:1681-1682 20 N'60.

1.Budapesti Orvostudományi Egyetem, I. sz. Szemklinika.  
(CORTICOTROPIN ther)  
(CORTISONE ther)  
(RETINA dis)  
(VITREOUS BODY dis)

GALL, Janos, dr.

Examination and evaluation of visual fusion frequency with special reference to borderline problems. Orv. hetil. 102 no.22:1021-1024 28 My '61.

1. Budapesti Orvostudományi Egyetem, I sz. Szemklinika.

(FLICKER FUSION)

27172

S/057/61/031/009/012/019

B104/B102

24,6800

AUTHORS: Kel'man, V. M., and Gall', L. N.

TITLE: Mass spectrometers with two-dimensional magnetic prism

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 31, no. 9, 1961, 1083-1091

TEXT: The production of mass spectrometers built in exact analogy to light-optical spectrometers is prevented by the absence of magnetic systems fulfilling the same task as optical prisms. Such magnetic systems are used in  $\beta$ -spectrometry, and the authors think it possible to use them also in mass spectrometers. A magnetic prism (Fig. 1) consists of a deflecting magnet whose poles are symmetric with respect to the plane PP (plane of field antisymmetry) and whose field is two-dimensional. The magnetic field strength must not change in a shift along the x-axis. The angles  $\alpha$  and  $\beta$  must be chosen so that with a certain ion pulse both cylindrical magnetic lenses which focus the ion beams form a cylindrical telescopic system. The authors study the conditions to be fulfilled by the angles  $\alpha$  and  $\beta$  in order that the focuses of the cylindrical lenses coincide. They obtain the two conditions  $1/\tan\alpha + 1/\tan\beta = \alpha + B$  and  $\sin\alpha + \sin\beta = d/q$ , where d

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B104/B102

Mass spectrometers with two- ...

is the width of the pole shoes, and  $q$  the radius of curvature of the ion path in the magnetic field. If the gap width is not small with respect to  $q$ , the equations of motion of the ions in the magnetic field must be integrated numerically. Further, the authors discuss various constructions of mass spectrometers with magnetic prisms. First, they deal with a mass spectrometer whose construction is equal to that of an optical spectrometer (without energy focusing), taking account of the angular dispersion of particles caused by mass differences. Finally, they mention four variants of mass spectrometers with magnetic prisms in which the energy is focused by cylindrical or spherical condensers. Fig. 4 shows a mass spectrometer with energy focusing consisting of a plane magnetic prism and a cylindrical condenser. Ya. L. Khurgin (ZhETF, 9, 824, 1939) is mentioned. There are 7 figures and 6 references: 3 Soviet and 3 non-Soviet. The two references to English-language publications read as follows: E. M. Purcell, Phys. Rev., 54, 818, 1938; C. P. Browne et al., Rev. sci. Instr., 22, 952, 1951.

ASSOCIATION: Fiziko-tehnicheskii institut im. A. F. Ioffe AN SSSR Leningrad (Physicotechnical Institute imeni A. F. Ioffe of the AS USSR, Leningrad)

Card 2/4

3li210

S/057/62/032/002/011/022

B124/B102

24.6210

AUTHORS: Gall', L. N., Gall', R. N., Rutgayzer, Yu. S., and Sheresh-  
evskiy, A. M.

TITLE: Three-tape ion source

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 32, no. 2, 1962, 202 - 207

TEXT: The industrially produced tape sources for the mass spectrometers of type MI1303 (MI1303) and MI1305 (MI1305) display considerable shortcoming. Therefore a new, improved ion source with surface ionization and separate evaporation and ionization curves has been developed. The arrangement of the tapes shown in Fig. 2 was found to be optimum to obtain focused ion beams with a cross-sectional area of 0.2·10 mm. The ions emitted from the ionizer tape are focused onto the exit slot. The luminosity of the ion-optical system of the source, i. e., the ratio of the number of ions emitted from the source as a focused beam to the total number of ions formed on the ionizer, was measured in a chamber evacuated to  $5 \cdot 10^{-7}$  mm Hg, which contained an ion collector with an electrometric amplifier used to determine the ion current. An aqueous suspension of ground mica providing an ion current

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B124/B102

Three-tape ion ...

stable in time at 900 - 1200°C was applied to the ionizator surface. The ion current was measured using electrode potentials corresponding to maximum values of ion flux to the collector. The total number of ions formed on the ionizator per unit time was determined by two different methods. The similar results obtained indicate that there occur no secondary processes and that the mean luminosity of the system is about 20%. A time of 3 - 5 min is needed to exchange all tapes and to introduce the sample. Long-time operation of the ionizator at 2800°K without substantial increase in pressure and without electric breakdown is ensured. The resolution of a mass spectrometer with such a three-tape ion source is 2000 for  $R_{0.5}$  and 800 for  $R_{0.05}$ .

The utilization coefficient of the sample, i. e., the ratio of the number of ions recorded by the collector with complete evaporation of the sample to the number of atoms introduced into the ion source, varies from 1.0 to 2.5. The sensitivity to uranium of an MI1306 (MI1306) mass spectrometer with a three-tape ion source is about  $10^{-12}$ g. N. I. Ionov (Ref. 1: ZhTF, 18, 174, 1948), S. A. Shchukarev and G. A. Semenov (Ref. 3: ZhNKh, 11, no. 6, 1217, 1957), R. N. Ivanov and G. M. Kukavadze (Ref. 4: PTE, 1, 106, 1957) and V. K. Gorshkov (Ref. 5: PTE, 2, 53, 1957) are mentioned. V. K. Oleynik and G.

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34210

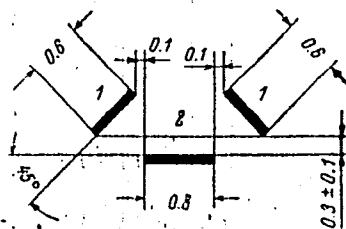
S/057/62/032/002/011/022  
B124/B102

Three-tape ion ...

A. Semenov are thanked. There are 5 figures, 2 tables, and 6 references: 4 Soviet and 2 non-Soviet. The two references to English-language publications read as follows: M. Inghram, K. Chupka, Rev. Sci. Instr. 24, 518, 1953; G. Palmer, J. Nucl. Energy 7, 1-12, 1958.

SUBMITTED: November 21, 1960 (initially)  
February 6, 1961 (after revision)

Fig. 2. Schematic diagram of the arrangement of tapes in the three-tape ion source. (1) evaporator; (2) ionizator.



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GALL', L.N.; SHERESHEVSKIY, A.M.

Operation of an automatic trajectory plotter in developing ionic sources and focusing systems of mass spectrometers. Fiz. elek. no.1:8-19 '62.

Methods for the practical design of electron-optical systems. Ibid.:65-89

Increase in the sensitivity of a system for measuring ion current in mass spectrometers. Fiz. elek. no.1:124-126 '62.  
(MIRA 17:1)



L 2302-66 EWT(1)/ETC(m) IJP(c) WW

ACCESSION NR: AP5020739

UR/0057/65/035/008/1483/1492

AUTHOR: Gall', L. N.; Vasil'yeva, N.K.

TITLE: Application of a decelerating potential system in mass spectrometry

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 8, 1965, 1483-1492

TOPIC TAGS: mass spectrometry, electron optics, optic resolution, ion beam, ion energy, deceleration

ABSTRACT: The authors discuss (with appropriate references to previous discussions by others) the use of a system of decelerating electrodes in front of the collector of a mass spectrometer. The principal purpose of such a system is to improve the resolution by rejecting unwanted ions of lower than normal energy, produced by scattering in the residual gas, by dissociation of molecular ions into metastable ions, or otherwise. As a figure of merit for such a system, the authors use the maximum value of the ration  $U/(U - V)$  that can be employed without rejecting a significant fraction of the desired ions. Here  $U$  is the energy of a beam ion and  $V$  is the height of the energy barrier of the decelerating system. Careful electron optical design is required to achieve a high figure of merit with a beam in which the trajectories are not all parallel. Electron-optical means for

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ACCESSION NR: AP5020739

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achieving high figure of merit are discussed. Five specific designs were analyzed with an "automatic trajectograph" employing an electrolytic tank and the best design was extensively tested in an actual mass spectrometer. A 1% figure of merit of 275 was achieved, i.e., when  $V$  was so chosen that  $U/(U - V) \approx 275$ , only 1% of the desired ions were rejected. This is more than adequate completely to reject metastable ions in hydrocarbon analysis and is adequate to reject a large fraction of the ions that have lost energy in small angle scattering. It is concluded that the use of decelerating systems can considerably improve the resolution, sensitivity, and accuracy of static magnetic mass spectrometers. "The authors express their deep gratitude to R.N.Gall for participation in discussions and for much valuable advice." Orig. art. has: 10 formulas, 9 figures, and 1 table.

ASSOCIATION: none

SUBMITTED: 03Nov64

NR REF SOV: 002

ENCL: 00

SUB CODE: NP

OTHER: 004

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Card 2/2

L 8911-65 EWT(m)/T LJP(a)/AFMDC/RAEM(b)/ESD(\*)/AEMG(b)/AS(m)-2/REH(ea)

ACCESSION NR: AT4013983

S/3070/63/000/000/0152/0156

AUTHOR: Gall', R. N.; Podkopayeva, N. G.; Prilutskiy, R. Ye.; Tyutikov, A. M.; (1)  
Shereshevskiy, A. M.

TITLE: An ion counter | 9

SOURCE: Novyye mashiny i pribory dlya ispytaniya metallov. Sbornik statey.  
Moscow, Metallurgizdat, 1963, 152-156TOPIC TAGS: Ion counter, ion current channel, mass spectrometer, ion channel  
sensitivity, ion counter design, ion current measurement G.M

ABSTRACT: Noting that one of the fundamental problems in the development of mass-spectrometric equipment is the need to increase the measurement sensitivity for ion currents (which does not exceed  $2 \cdot 10^{-15}$  amperes in conventional mass-spectrometers), the authors announce the development of an ion counter which permits a 1000-fold increase in the sensitivity of the ion current measuring channel. A simplified block diagram of the ion counter (see Fig. 1 in the Enclosure), the design of an ion receiver and an electron multiplier with measuring unit are illustrated. Three procedures are described for the use of this counter in measuring ion currents. In the first method, as in the conventional mass spectrometer, the lower test limit for ion currents is fixed by the fluctuations and drift of the

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ACCESSION NR: AT4013983

electrometric amplifier, the level of which corresponds to an ion current of  $2 \cdot 10^{-15}$  amperes. The second method - the measurement of the integral value of the current at the output of the electron multiplier - provides a test range for ion currents extending from  $10^{-10}$  to  $10^{-18}$  amperes with a multiplier gain factor of  $10^6$ . The third procedure calls for the ion current to be measured according to the mean repetition frequency of the pulses, created by the individual ions, at the multiplier output. In this case, the recommended test range is  $10^{-15}$  -  $10^{-18}$  amperes. The operation of the test circuit with the electron multiplier is described in detail. The pulse amplifier contains a pulse-shaping stage, three voltage-boosting stages and a cathode follower at the output. Maximum gain of the pulse amplifier is  $3 \cdot 10^4$ ; amplitude characteristic nonlinearity up to an output voltage of 150 volts is not more than 2%, and gain factor instability after 8 hours of continuous operation is less than 2%. The differential analyzer is briefly described; the time constant of the intensimeter integrating network is said to be 1 second. A 16-stage linear electron multiplier with electrostatic focussing is used in the ion counter. The dynode activation method employed provides high gain together with high stability. The ion counter was tested on a MI1306 mass-spectrometer with a central trajectory radius of the ion beam of 300 mm. An error range below 2% was confirmed in the measurement of abundance ratios for Hg and Xe isotopes. Orig. art. has 4 graphs and 1 table.

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L 8911-65  
ACCESSION NR: AT4013983

ASSOCIATION: Spetsial'noye konstruktorskoye byuro analiticheskogo priborostro-  
yeniya (Special Design Bureau for Analytic Instrumentation)

SUBMITTED: 00

ENCL: 02

SUB CODE: NP

NO REF SOV: 001

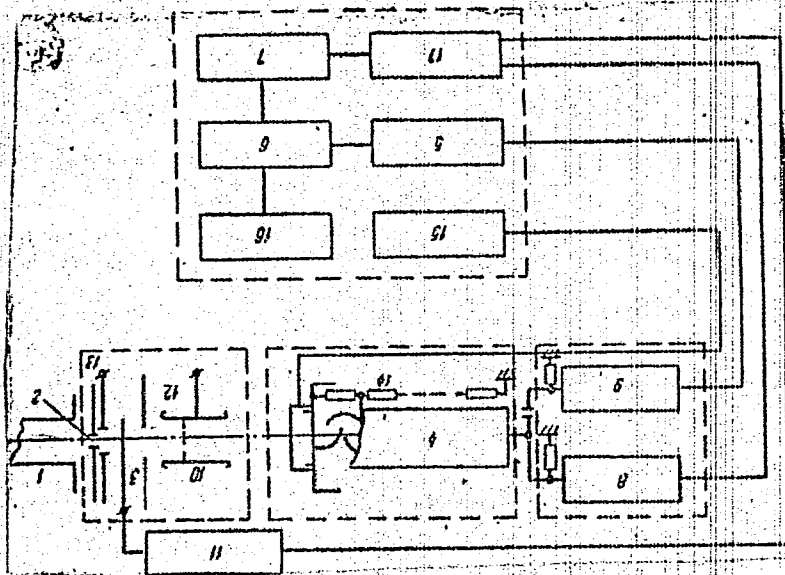
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ACCESSION NR: AT4013983

ENCLOSURE: 01



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ACCESSION NR: AT4013983

ENCLOSURE: 02

Citation to Fig. 1:

Fig. 1. Simplified block diagram of ion counter

1-analyzer chamber, 2-ion receiver aperture, 3-traversing collector, 4-electron multiplier, 5-impulse amplifier, 6-analyzer, 7-rate meter, 8-electrometric cascade II, 9-cathode follower, 10-retarding electrode, 11-electrometric cascade I of DC amplifier, 12-grounded screen, 13-antidynatron electrode, 14-voltage divider, 15-multiplier power unit, 16-counter, 17-DC amplifier unit

Card 5/5

GALLE, Laszlo

Antibiotics in lichens. Elovilag 4 no.4:20-23 O-D '59.

1. Tudományos Ismeretterjesztő Társulat Csongrád megyei  
Szervezete Biológiai Szakosztályának tagja.



GALLE, Laszlo

An account of the Szeged Division, Hungarian Biological Society.  
Biol kozl 11 no.1:75-84 '63.

1. Magyar Biologiai Tarsasag Szegedi Osztalya jegyzoje.

GALL, Laszlo, dr., kandidatus

It is a superstition that sheep require little water. Elet  
tud 18 no.21:665-666 26 My '63.

GALLE, László (Szeged, Lenin korut 6-8)

Occurrence and ecologic conditions of the Physcietum ascen-  
dentis phyciosum bizianae lichen association. Botan kozl  
50 no.4:179-184 D\*63.

GALLI, Laszlo

Proposal for the determination of the dependability of geo-  
hydrological investigations. Hidrologiai kozlony 36 no.2:  
124-126 Ap'56

PAPP, Szilard, dr.; GALL, Laszlone

Radon content of mineral and medicinal waters in Hungary.  
Hidrologiai kozlony 36 no.3:202-207 Ja'56.

1. Orszagos Kozegeszsegugyi Intezet Vizugyi Osztalya. 2. "Hidrologiai Kozlony" szerkeszto bizottsagi tagja (for Papp).

AYBINDER, M.I., dotsent, kand.fil.nauk; ALLYENOVA, N.M.; GALL, N.A.,  
kand.fil.nauk; SAVINA, L.V.; ASTAPENKO, P.D., dotsent, kand.  
geograf.nauk, red.; LEPESHINSKAYA, Ye.V., red.; BRUDNO,  
K.P., tekhn.red.

[English-Russian meteorological dictionary] Anglo-russkii  
meteorologicheskii slovar'. Pod red. P.D.Astapenko. Moskva,  
Gos.isd-vo fiziko-matem.lit-ry. 1959. 244 p. (MIRA 12:8)  
(Meteorology--Dictionaries)

29308  
S/169/61/000/006/030/039  
A005/A130

3, 1420 (1049, 1482)

**AUTHORS:** Gall, R., Lifshits, Dzh.

**TITLE:** Temporary capture of cosmic ray particles and their contribution to high intensity belts

**PERIODICAL:** Referativnyy zhurnal, Geofizika, no. 6, 1961, 11, abstract 6G79. (Tr. Mezhdunar. konferentsii po kosmich. lucham, 1959, T. 3. Moscow, AN SSSR, 1960, 75-86)

**TEXT:** The authors study the nature of the radiation belts on the assumption that the source of radiation is primary and secondary cosmic rays. On the basis of the geomagnetic theory of cosmic ray effects, they examine the capture of charged particles into unstable periodic orbits in the field of the geomagnetic dipole. Since the main periodic orbits are found near geomagnetic latitudes  $\pm 35^\circ$ , they consider only that part of the radiation belt which lies within these limits. The possibility of capture of a particle into a given periodic orbit at latitude  $\lambda$ , and distance  $r$  from the dipole center is uniquely defined by the particle's ener-

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S/169/61/000/006/030/039  
A005/A130

Temporary capture of cosmic ray particles ...

gy. At a distance of about  $1.4 R_e$  ( $R_e$  is the earth's radius) protons with an energy no greater than 10 Bev can be captured while protons with an energy of 0.1 Bev can be captured into a periodical orbit at a distance of about  $7 R_e$ . The authors calculate the intensity  $I$  of captured radiation at distance  $r$  and latitude  $\lambda$ , which is generated by a source of particles with the differential energy spectrum  $D(\epsilon)$ . The spectrum of primary cosmic radiation is taken in the form:

$$D(\epsilon)d\epsilon = 0.048\epsilon^{-2/3} (1 + 0.09\epsilon^{4/3})^{-3/2} d\epsilon \text{ for } \epsilon \geq 0.5 \text{ Bev}$$

The intensity of captured protons has a maximum at about  $1.7 R_e$ , the position and intensity of the maximum depending on the latitude. Comparison of calculation results with experimental data obtained by "Pioneer" III shows that another source of radiation must exist. The authors show that if secondary protons with  $0.45 \leq \epsilon \leq 2.2$  Bev energy and a sharp maximum at 0.52 Bev are such an additional source, the calculated intensity in the radiation belts agrees satisfactorily with the data obtained by Pioneer III. Residual discrepancies between the experimental curves and the

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S/169/61/000/006/030/039  
A005/A130

Temporary capture of cosmic ray particles ...

curves calculated on the assumption of capture into unstable periodic orbits can be partially eliminated by choosing a more correct spectrum of secondary protons.

N. Kammer

[Abstractor's note: Complete translation.]

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34210

S/057/62/032/002/011/022  
B124/B102

24.6210  
AUTHORS:

Gall', L. N., Gall', R. N., Rutgayzer, Yu. S., and Sheresh-  
evskiy, A. M.

TITLE:

Three-tape ion source

PERIODICAL:

Zhurnal tekhnicheskoy fiziki, v. 32, no. 2, 1962, 202 - 207

TEXT: The industrially produced tape sources for the mass spectrometers of type *MW1303* (MI1303) and *MW1305* (MI1305) display considerable shortcomings. Therefore a new, improved ion source with surface ionization and separate evaporation and ionization curves has been developed. The arrangement of the tapes shown in Fig. 2 was found to be optimum to obtain focused ion beams with a cross-sectional area of 0.2-10 mm. The ions emitted from the ionization tape are focused onto the exit slot. The luminosity of the ion-optical system of the source, i. e., the ratio of the number of ions emitted from the source as a focused beam to the total number of ions formed on the ionizer, was measured in a chamber evacuated to  $5 \cdot 10^{-7}$  mm Hg, which contained an ion collector with an electrometric amplifier used to determine the ion current. An aqueous suspension of ground mica providing an ion current

Card 1/4  
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Three-tape ion ...

stable in time at 900 - 1200°C was applied to the ionizator surface. The ion current was measured using electrode potentials corresponding to maximum values of ion flux to the collector. The total number of ions formed on the ionizator per unit time was determined by two different methods. The similar results obtained indicate that there occur no secondary processes and that the mean luminosity of the system is about 20%. A time of 3 - 5 min is needed to exchange all tapes and to introduce the sample. Long-time operation of the ionizator at 2800°K without substantial increase in pressure and without electric breakdown is ensured. The resolution of a mass spectrometer with such a three-tape ion source is 2000 for  $R_{0.5}$  and 800 for  $R_{0.05}$ .

The utilization coefficient of the sample, i. e., the ratio of the number of ions recorded by the collector with complete evaporation of the sample to the number of atoms introduced into the ion source, varies from 1.0 to 2.5. The sensitivity to uranium of an MI1306 (MI1306) mass spectrometer with a three-tape ion source is about 10<sup>-12</sup>g. N. I. Ionov(Ref. 1: ZhTF, 18, 174, 1948), S. A. Shchukarev and G. A. Semenov(Ref. 3: ZhNKh, 11, no. 6, 1217, 1957), R. N. Ivanov and G. M. Kukavadze(Ref. 4: PTE, 1, 106, 1957) and V.K. Gorshkov (Ref. 5: PTE, 2, 53, 1957) are mentioned. V. K. Oleynik and G.

Card 2/43

34210

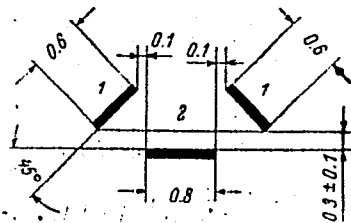
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B124/B102

Three-tape ion ...

A. Semenov are thanked. There are 5 figures, 2 tables, and 6 references: 4 Soviet and 2 non-Soviet. The two references to English-language publications read as follows: M. Inghram, A. Chupka, Rev. Sci. Instr. 24, 518, 1953; G. Palmer, J. Nucl. Energy 7, 1-12, 1958.

SUBMITTED: November 21, 1960 (initially)  
February 6, 1961 (after revision)

Fig. 2. Schematic diagram of the arrangement of tapes in the three-tape ion source. (1) evaporator; (2) ionizator.



Card 3/A3

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B125/B108

AUTHOR: Gall', R. N.

TITLE: Vertical focusing of magnetic analyzers of mass spectrometers

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 32, no. 4, 1962, 402-405

TEXT: The simultaneous horizontal and vertical focusing of the first order of paraxial beams of charged particles in homogeneous and inhomogeneous axisymmetric fields of symmetrical analyzers is carried out with equal horizontal and vertical distances  $\lambda_1$  and  $\lambda_1'$  between the field boundary and the focal points.

$$\frac{\text{tg } \omega\psi}{\omega} = \frac{2\left(\frac{1}{a_1} + \frac{1}{\lambda_1}\right)}{\omega^2 - \left(\frac{1}{a_1} + \frac{1}{\lambda_1}\right)^2} \quad (2)$$

and

$$\frac{\text{tg } \Omega\psi}{\Omega} = \frac{2\left(\frac{1}{\lambda_1'} - \frac{1}{a_1}\right)}{\Omega^2 - \left(\frac{1}{\lambda_1'} - \frac{1}{a_1}\right)^2} \quad (3)$$

Card 1/4

Vertical focusing of magnetic ...

S/057/62/032/004/003/017  
B125/B108

with  $\Omega^2 = -A_1$  are the conditions of simultaneous focusing for symmetrical analyzers ( $\lambda_1 = \lambda_2$ ,  $t_1 = -a_1$ ) in radial-symmetric fields

$H = H_0(1 + A_1\eta + A_2\eta^2 + \dots)$  ( $\eta = (R - R_0)/R_0$ ,  $H_0 =$  field strength at  $R = R_0$ ).  $\omega^2 = 1 + A_1$ ;  $\psi =$  angle of deflection of the particle beam in the magnetic field;  $\lambda_1$  and  $\lambda_2 =$  distances from the source to the field

boundary, and from the other field boundary to the focus, in units of radius  $R_0$  of the central trajectory of the charged particles;  $a_1$  and  $t_1 =$  tangents

of the angles between the tangents to the field boundaries and the directions of motion of the charged particles, respectively entering or leaving the field. For analyzers with a uniform magnetic field ( $A_1 = 0$ ,  $\omega = 1$ ,

$\Omega = 0$ ), the conditions of simultaneous focusing  $(\psi/2)\tan(\psi/2) = (\psi/a_1) - 1$  with one of the conditions  $\tan(\psi/2) = (1/a_1) + (1/\lambda_1)$  or

$(\psi/2) = 1/((1/a_1) - (1/\lambda_1))$ . The broken curve in Fig. 1 is the locus of the intersections of the curves with  $\lambda_1 = \lambda_1'$ .  $\beta$ -spectrometers feature an

analyzer corresponding to a two-dimensional magnetic prism as suggested by V. M. Kel'man and D. L. Kaminskiy (ZhETF, 21, 4, 555, 1951). Simultaneous Card 2/4

Vertical focusing of magnetic ...

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B125/B108

focusing is possible in analyzers with a uniform magnetic field at  $a_1 \leq 0.87$  and  $\psi/2 \geq 49^\circ$  and with any arm length. In inhomogeneous axisymmetric fields, all values of the inhomogeneity coefficient  $A_1$  of the field and the arm lengths  $\lambda_1 = \lambda_1'$  of simultaneous focusing correspond to a deflection angle  $\psi$  of the ion beam in the magnetic field and to a certain inclination of the field boundaries. Analyzers with  $\lambda_1 = \lambda_1' = 0$ , inhomogeneity coefficient  $A_1 = -0.5$ , and simultaneous focusing with the deflection angle  $\psi = \pi/2$  are used in various spectrometers for charged particles and also in apparatus for electromagnetic isotope separation. Two-dimensional magnetic prisms can be accomplished with  $\lambda_1 = \lambda_1' = \infty$  if

$$\left(\Omega^2 - \frac{1}{a_1^2}\right) \frac{\text{tg } \Omega\psi}{\Omega} = - \left(\omega^2 - \frac{1}{a_1^2}\right) \frac{\text{tg } \omega\psi}{\omega} \quad (7) \text{ and,}$$

additionally, with (2) or (3). Every  $A_1$  corresponds to two values of  $\psi/2$  and  $a_1$ . The values  $A_1 = 0$  (homogeneous field) and  $A_1 = -1$  correspond to only one two-dimensional prism each. The dispersion  $D$  increases from  $D_{\min}$  to  $\infty$ .

Card 3/4

Vertical focusing of magnetic ...

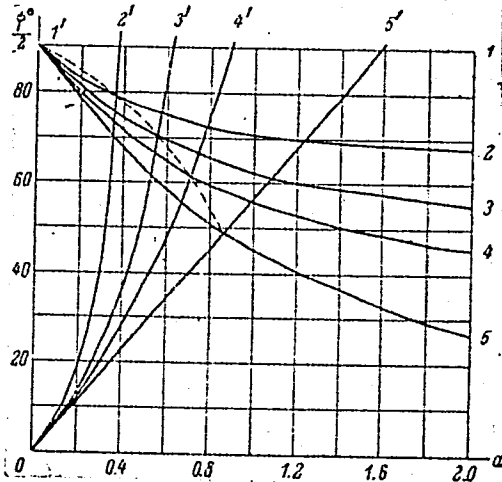
S/057/62/032/004/003/017  
B125/B108

as  $|A_1|$  increases from  $A_1 = 0$  to  $A_1 = -1$ . There are 2 figures and 2 Soviet references.

SUBMITTED: March 22, 1961 (initially), July 27, 1961 (after revision)

Fig. 1. Curves for the dependence of the half angle of deflection of the ions on the inclination of the field boundary for different lengths of arms of horizontal and vertical focusing (for uniform fields).

- Legend: (1)  $\lambda_1 = 0$ ; (2)  $\lambda_1 = 0.5$ ;  
 (3)  $\lambda_1 = 1.0$ ; (4)  $\lambda_1 = 2.0$ ;  
 (5)  $\lambda_1 = \infty$ ; (1')  $\lambda_1' = 0$ ;  
 (2')  $\lambda_1' = 0.5$ ; (3')  $\lambda_1' = 1.0$ ;  
 (4')  $\lambda_1' = 2.0$ ; (5')  $\lambda_1' = \infty$ .



Card 4/4



GALL S.  
EXCERPTA MEDICA Sec.7 Vol.12/3 Pediatrics March 58

848. PREVENTION OF THE NOXIOUS EFFECT OF NITRATES FROM WATER  
IN INFANTS - Ivóvíz eredetű csecsemőkori alimentáris nitrát-ártalom pro-  
filaxisa - Gall S., Bodnár S. and Barkócsi M. - NÉPEGÉSZSÉGÜ-  
GY 1956, 37/7 (190-192)  
Over 50 mg./l. nitrate was found in 117 out of 172 samples of well-water. Even

GALL, Sandor, dr.

Five decades of development in syphilis serology; data on the evaluation of routine tests. Orv. hetil. 98 no.39:1069-1073  
23 Sept 56.

1. A Szabolcs-Szatmar Megye Tanacs Korhaza (igazgato:  
Salamon, Istvan, dr.) Laboratoriumi Osztalyanak (foorvos:  
Gall, Sandor, dr.) kozlemenye.

(SYPHILLIS, diag.

serodiag., hist. & evaluation of tests (Hun))

GAIL, T., ing.

Testing an overline crossing in Iasi. Rev transport 8 no.  
8:364-367 Ag '61.

GALL, Tr., ing.

Some aspects concerning the necessity of tests and measurements  
in bridge buildings. Rev transport 9 no.5:211-216 My '62.

Gall, Wieslaw

The effect of sodium salicylate on the growth of bacteria which cause rheumatic fever. G. Bernmanowa, W. Gall, and W. Kozinski. *Act. Bakteriologica & Mikrobiologica* (1963).--Bacteria isolated from rheumatic fever patients are susceptible to sodium salicylate (1). Serial transfer of cultures into media contg. 1 shows progressive increase in their growth due to adaptation. I. Z. Roberts

GALL, Wieslaw

KWAPINSKI, Jerzy; BACZYNSKA, Krystyna; GALL, Wieslaw; KWAPINSKA, Barbara

Waller-Rose reaction. Postepy reumat. no.2:45-58 1956.

1. Z Instytutu Reumatologicznego w Warszawie Dyrektor:  
prof. dr. E. Reicher.

(ARTHRITIS, RHEUMATOID, diag.

serodiag., Waller-Rose reaction (Pol))

(RHEUMATIC FEVER, diag.

same)

KWAPINSKI, J.; BERMANOWA, G.; GALL, W.

Research on the action of salicylate on streptococci. Postepy reumat.  
no.3:37-43 1957.

1. Z Instytutu Reumatologicznego w Warszawie. Dyrektor: prof. dr. El.  
Reicher.

(STREPTOCOCCUS, eff. of drugs on  
sodium salicylate, in vitro action on hemolytic streptoc.  
(Pol))

(SODIUM SALICYLATE, eff.  
on streptoc., hemolytic, in vitro action (Pol))

GALL, Zvonimir

3

Determination of proteins by means of the "Kern LK 30" apparatus for microelectrophoresis. Vera Gall-Pall and Zvonimir Gall (Vet. zavod, Sarajevo, Yugoslavia). *Bull. soc. chimistes repub. pop. Bosnie et Herzegovine* 2, 79-88(1953).—The app. and techniques are described. Sources of possible errors, and ways for their elimination, are discussed. Results are critically compared with those obtained by the Kjeldahl-Pörster method. N. P.



GALL, Zvonimir

Electrophoretic Analysis of Albumin Serum Fractions in Normal Animals  
co-au. Vera Gall-Palla

Vet Inst. of P.R. of Bosnia and Herzegovina in Sarajevo  
(Dr: prof Dr. Jezic)

Vet 1:88-92 1954

YUGOSLAVIA/Human and Animal Physiology. Blood. Blood Chemistry. T-4

Abs Jour: Ref Zhur-Biol., No 12, 1958, 55393.

Author : Gall, Z., Gall-Palla, V.

Inst<sub>2</sub> :

Title : An Electrophoretic Investigation of Protein Fractions  
in the Sera of Normal Animals.

Orig Pub: Glasnik biol. sek. Hrvatsko prirodosl. drustvo, 1953  
(1955), Ser. 2B, 7, 151-152.

Abstract: Microelectrophoresis studies were made of protein sera of clinically healthy horses, cows and lambs. The amounts of the total protein found in horses were 6.5 percent, in cows 6.25 percent, and in lambs 6.1 percent.  $\alpha_1$ -globulin amounted in horses to 0.66 percent, in cows to 0.54 percent, and in lambs to 0.57 percent.  $\alpha_2$ -globulin in horses nur-

Card : 1/2

YUGOSLAVIA/Zooparasitology - Parasitic Worms.

G

Abs Jour : Ref Zhur Biol., No 1, 1959, 1017

Author : ~~Gall, Z.~~

Inst : -

Title : Rare Case of Multicellular Echinococcus in the Liver of  
a Cow

Orig Pub : Veterinaria (Jugosl.), 1957, 6, No 4, 641-643

Abstract : No abstract.

Card 1/1

- 30 -

George J. ...

Ventricular septal perforation caused by myocardial infarct  
diagnosed intra vitam. Orv. hetil. 105 no.32:1532 9 Ag '64.

GALL-FALLA, Vera

"A Rapid Method for Determining Protein Content in Cow Milk". Eng. of Chemistry Vera Gall-Palla assistant at Vet. Faculty of the Republic of Bosnia & Herzegovina, Sarajevo.

SOURCE: Vet. BROJ 8-9-10, p. 735, 1952

GALL-PALLA, Vera

3

Determination of proteins by means of the "Kern LK 30" apparatus for microelectrophoresis. Vera Gall-Palla and Zvonimir Gall (Vet. zavod, Sarajevo, Yugoslavia). Bull. soc. chimistes repub. pop. Bosnie et Herzegovine 2, 79-88(1953).—The app. and techniques are described. Sources of possible errors, and ways for their elimination, are discussed. Results are critically compared with those obtained by the Kjeldahl-Pörster method. N. P.

YUGOSLAVIA/Human and Animal Physiology. Blood. Blood Chemistry. T-4

Abs Jour: Ref Zhur-Biol., No 12, 1958, 55393.

Author : Gall, Z., Gall-Palla, V.

Inst: :

Title : An Electrophoretic Investigation of Protein Fractions  
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Abstract: Microelectrophoresis studies were made of protein sera of clinically healthy horses, cows and lambs. The amounts of the total protein found in horses were 6.5 percent, in cows 6.25 percent, and in lambs 6.1 percent.  $\alpha_1$ -globulin amounted in horses to 0.66 percent, in cows to 0.54 percent, and in lambs to 0.57 percent.  $\alpha_2$ -globulin in horses num-

Card : 1/2

0442-0.1027  
YUGOSLAVIA/Virology - Human and Animal Viruses.

E-2

Abs Jour : Ref Zhur - Biol., No 8, 1958, 33624  
Author : Ezhich, Gall-Palla, Palikovich  
Inst : -  
Title : Biological Considerations of Smallpox Infection  
Mechanism.  
(K biologicheskoy storone voprosa o mekhanizme ospennoy  
infektsii).  
Orig Pub : Veterinaria (jugosl.), 1957, 6, No 1, 127-138  
Abstract : No abstract.

Card 1/1



GALLA, V.

Construction of a panel and prefabricated elements-producing plant in Fizen. p. 245

POZEMNI STAVBY. (Ministerstvo stavebnictvi) Praha, Czechoslovakia, Vol. (7),  
no. 5, (May) 1959.

Monthly List of East European Accessions (EEAI), LV, Vol. 8, no. 7, July 1959  
Uncl.

GALLAI, Gyorgy, okleveles gepeszmernok

Introduction of the manufacture of up-to-date single-stage and double-stage compressor types with TKV 1 and TKV marks at the Ganz-MAVAG Factory. Energia es atom 15 no.10/11:485-492 O-N '62.

1. Ganz-MAVAG.

GALLAI, Katalin, dr.

Present and future of papers in Hungary. Musz elet 18 no.13:7  
20 Je '63.

Hungarian Technical  
Abstracts  
Vol. 5 No. 4 1953

33. On the stability of high banks along the Danube River and Lake Balaton - *A dunai és balatoni magas partok dőlékenységének törvényszerűségei* - L. Gallai (Journal of Hydrology - *Hidrologiai Közlemény* - Vol. 32, 1952, No. 11-12, pp. 409-415, 9 figs.)

The typical forms of bank movements vary in conformity with the play of forces in a beam balance, with the high bank acting on the one side and the lighter detritus and shearing resistance on the other. The stability of the bank is influenced by several factors; rupture of the bank, soaking through of the detritus and erosion of the foot of the slope. In order to drain the bank, the author proposes the drilling of galleries at right angles to the bank, these however are adequate only above high water level. A much more effective preventive measure is changing the relation of the weight of the detritus quarry. The load must be reduced by cutting away of the river wall. The stability relations of the bank should be clarified over its entire length by plotting the probable location of the sliding plane and by determining the extent of damming by means of borings. The effectiveness of draining or of the modification of external forces can be decided only with a knowledge of local conditions. From the standpoint of water supply it is desirable to become familiar with the area beyond the high banks.

P. Maraldin

EH

6-11-54

AMBROZY, Gyorgy, dr.; ECKHARDT, Sandor, dr.; GALLAI, Margit, dr.

Neural complications in malignant tumors of the hemopoietic system. Ideg.szemle 12 no.12:367-379 D '59.

1. A Budapesti Orvostudományi Egyetem Neurológiai Klinikája  
(Igazgató: Dr. Horányi Béla egyetemi tanár) Országos Onkológiai  
Intézet (Igazgató: Dr. Víkó János, főorvos: Dr. Sellei Camillo)  
közleménye.

(NERVOUS SYSTEM dis)

(HEMATOPOIETIC SYSTEM neopl)

GALLAI, Margit, dr.; ECKHARDT, Sandor, dr.; AMBROZY, Gyorgy, dr.

A case of progressive multifocal leukoencephalopathy associated with Hodgkin's disease. Idegyogy. szemle 15 no.9:257-264 S '62.

1. A Budapesti Orvostudományi Egyetem Neurológiai Klinikájának (Igazgató: Horányi Béla dr. egyetemi tanár) és az Országos Onkológiai Intézet belgyógyászati osztályának (Főorvos: Sellei Camillo dr.) közleménye.  
(HODGKIN'S DISEASE) (BRAIN DISEASES)

AMBROZY, Gyorgy; GALLAI, Margit, dr.

Thrombosis of the posterior cerebral artery in vertebral angiography verified by patho-anatomical examination. Grown-Sequard syndrome complicating angiography. Ideggyogy. szemle 15 no.6;168-174 Je '62.

1. A Budapesti Orvostudományi Egyetem Neurológiai Klinikájának közleménye (Igazgató: Horányi Béla dr. egyetemi tanár).  
(SPINAL CORD dis) (ANGIOGRAPHY compl)  
(CEREBRAL EMBOLISM AND THROMBOSIS etiol)

GALLAI, Margit, dr.; ECKHARDT, Sandor, dr.; AMBROZY, Gyorgy, dr.

A case of progressive multifocal leukoencephalopathy associated with Hodgkin's disease. Idegyogy. szemle 15 no.9:257-264 S '62.

1. A Budapesti Orvostudományi Egyetem Neurologiai Klinikájának (Igazgató: Horányi Béla dr. egyetemi tanár) és az Országos Onkológiai Intézet belgyógyászati osztályának (Főorvos: Sellei Camillo dr.) közleménye.  
(HODGKIN'S DISEASE) (BRAIN DISEASES)



ERDOS, Pal; GALLAI, Tiber

On the minimal number of vertices representing the edges of a graph.  
Mat kut kozl MTA 6 no.1/2:181-203 '61.

(Topology)

GALLAI, Tibor

Parallelogram law of the composition of forces. Fiz szemle 10 no.2:  
59-61 F '60.

1. Magyar Tudományos Akademia Matematikai Kutató Intézete.

GALLAI, T. (Budapest)

Maximum-minimum theorems and generalized factors of graphs. Acta mat  
Hung 12 no.1/2:131-173 '61. (EAI 10:9)

1. Vorgelegt von G. Hajos.

(Topology) (Spaces, Generalized)

GALLAI, T.

Gallai, T. On factorisation of graphs. Acta Math. Acad. Sci. Hungar. 1, 133-153 (1930). (English. Russian summary)

A subgraph of a given graph  $G$  is a graph  $G'$  whose edges and vertices are edges and vertices respectively of  $G$ , with the same incidence relations as in  $G$ . A subgraph  $G'$  of  $G$  is a factor of  $G$  of degree  $n$  if each vertex of  $G$  has degree  $n$ , that is, is incident with just  $n$  edges, in  $G'$ . The author presents a theory of factors using the method of alternating paths introduced by Petersen [Acta Math. 15, 193-220 (1891)]. This enables him to give a unified treatment of the theorems contributed by Petersen, König, Baebler, Hall, Radó, and the reviewer. Thus he derives the necessary and sufficient condition for the existence of a factor of degree 1 in a general graph, and the simpler condition which applies to even graphs, in a new way. He states that he has derived a necessary and sufficient condition for the existence of a factor of degree 2 in a general graph which he will discuss in a later paper. A graph is regular if the degrees of its vertices are all equal. The author extends the theory of the factors of regular graphs by giving a necessary and sufficient condition for the existence of a factor of any given degree in a regular graph.

W. T. Tutte (Toronto, Ont.)

Source: Mathematical Reviews,

Vol. 12 No. 8

1200

GALIAI, T.

Maximum-minimum theses connected with graphs.

pt. 1. p. 305. (Magyar Tudományos Akadémia. Matematikai és Fizikai Osztály. Közleményei. Vol. 7, no. 3/4, 1957. Budapest, Hungary)

Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 2, February 1958

GALLAI, T.

Maximum-minimum theorems on graphs. In German. p. 395.

ACTA MATHEMATICA. (Magyar Tudományok Akadémia) Budapest, Hungary. Vol. 9,  
no. 3/4, 1958.

Monthly list of East European Accessions, (EEAI) LC, Vol. 9, no. 1, Jan. 1960.

Uncl.

ERDOS, Pal (Budapest); GALLAI, Tibor (Budapest)

On maximal paths and circuits of graphs. In English. Acta mat. Hung.  
no.3/4:337-356 '59. (KEAI 9:5)

1. Corresponding member, Hungarian Academy of Sciences (For Erdos).  
(Topology)

34560

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S/044/62/000/001/005/061  
C1111/C444

AUTHORS: Erdős, Pál; Gallai, Tibor.

TITLE: Graphs with points of given power

PERIODICAL: Referativnyy zhurnal, Matematika, no. 1, 1962, 47,  
abstract 1A295. (Mat. lapok, 1960, 11, no. 4, 264 - 274)

TEXT: A sequence  $a_1, \dots, a_n$  ( $n \geq 2$ ) is called realisable, if there is a graph without sloops or multiple borders, the points of which are  $P_1, P_2, \dots, P_n$  and in which the power of the point  $P_i$  is equal to  $a_i$  ( $i = 1, 2, \dots, n$ ). The following theorem is proved:

A sequence of non-negative integers  $a_1, \dots, a_n$  ( $n \geq 2$ ), satisfying the condition  $a_1 \geq a_2 \geq \dots \geq a_n$ , is realisable, if and only if the following conditions are satisfied:

- a)  $\sum_{i=1}^n a_i$  is an even number;

Card 1/2

4



Graphs with points of given power

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C111/C444

b) 
$$\sum_{i=1}^j a_i - j(j-1) \leq \sum_{k=j+1}^n \min(j, a_k) \quad (j = 1, \dots, n-1).$$

The proof uses an idea of Havel and is carried out by complete induction with respect to  $\sum_{i=1}^n a_i$ . It is also proved that the problem may be regarded as a factorisation problem with respect to complete graphs; basing on these facts one deduces the theorem also from the factorisation theorem of Tutte, W. T., (Canad. J. Math., 1952, 4, 314 - 328).

[Abstracter's note: Complete translation.]

Card 2/2

HAJOS, Gyorgy; CSASZAR, Akos; PAL, Laszlo; TURAN, Pal; CORRADI, Keresztely;  
KARTESZI, Ferenc; GALLAI, Tibor; GRATZER, Gyorgy; SCHMIDT, E.  
Tamas; RENYI, Alfred; HETVEI, Gabor; BARTFAI, Pal; LEAK, Ervin;  
KOVARI, Tamas

Mathematical problems. Mat lapok 13 no.1/2:174-183 '62.

1. "Matematikai Lapok" szerkeszto bizottsagi tagja (for Hajos).
2. "Matematikai Lapok" felelos szerkesztoje (for Turan).
3. "Matematikai Lapok" szerkeszto bizottsagi tagja (for Renyi).

GALLAI, T.

Graphs with triangularizable odd polygons. Mat kut kozl MTA  
7 Ser.A no.1/2:3-36 '62.

GALLAI, Tibor

New proof for a Tutte's theorem. Mat kut kozl MTA 8 A series  
no.1/2:135-139 '63.

Graphs. Pt. 1.

163-172

1. "A Magyar Tudományos Akademia Matematikai Kutato Inteze-  
tenek Kozlemenyei" Szerkeszto Bizottsagi tagja.